



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,221	05/15/2001	Rolf De Vos	OYJALO-008	5384
530	7590	04/19/2004		EXAMINER
LERNER, DAVID, LITTENBERG, KRMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090				ALVO, MARC S
			ART UNIT	PAPER NUMBER
			1731	

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/763,221	DE VOS ET AL. <i>eb</i>
	Examiner	Art Unit
	Steve Alvo	1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 28 January 2004.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 7-21 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 7-21 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	6) <input type="checkbox"/> Other: _____

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over SIXTA et al in view of AT 403 704 or CHENG or AUSTRALIAN PATENT APPLICATION 2203/92.

SIXTA et al teaches bleaching medium consistency pulp with ozone gas containing 300 g/m<sup>3</sup> ozone (30% ozone by weight), see column 3, lines 8-9 and lines 23-24. SIXTA et al teaches that the ozone is mixed into the pulp by agitation or mixing and prefers a high shear mixer. However, the other non-preferred mixers of SIXTA et al would not be high shear mixers. AT 403 704 teaches using ozone containing gas to bleach pulp wherein the ozone is added directly to the reactor without mixing. CHENG teaches dispersing chemicals into the liquid without the use of high shear mixers by using a porous metal injector to disperse a gas into a liquid.

AUSTRALIAN PATENT APPLICATION 2203/92 teaches the alternativeness of mixing high concentrations of ozone containing gas into pulp with or without high shear mixers (see instant specification page 2, lines 17-28). It would have been obvious to the artisan to use the ozone/liquid dispersing means of AT 403 704 or CHENG or AUSTRALIAN PATENT APPLICATION 2203/92 to mix the ozone into the liquid pulp slurry of SIXTA et al. It would have been especially obvious that non high shear mixers could be used as the mixer of SIXTA et al as AUSTRALIAN PATENT APPLICATION 2203/92 teaches the alternativeness of mixing ozone gas into medium consistency wood pulp using mixers with or without high shear.

Generating ozone gas is well known in the ozone bleaching art, if not such is taught by AT 403 704.

Claims 8 and 21 are rejected under 35 U.S.C 103(a) as being unpatentable over SIXTA et al in view of AT 403 704 or CHENG or AUSTRALIAN PATENT APPLICATION 2203/92 as applied to claim 7 above, and further in view of EP 526 383.

EP 526 383 teaches generating ozone from pre-compressed oxygen. It would have been obvious to the artisan that the ozone of SIXTA and/or CHENG could have been generated from pre-compressed oxygen in the manner taught by EP 526 381

Applicants arguments that there is no motivation to produce the claimed invention is not convincing as the terms "medium" and "high" are relative terms which do not patently define over the combination of references. SIXTA et al prefers "high" shear mixers, but only requires vigorous agitation. The claimed "without using a high shear mixer" does not define over the "vigorous agitation" of SIXTA et al as the specification, page 4, lines 12-14, describes the invention as using "dynamic low to medium intensity mixer is provided in the pulp stream...Such a mixer delivers to the pulp stream amounts of energy which are well below fluidization energies". Clearly SIXTA et al recognized other mixers than high shear mixers could have been used, otherwise "high shear mixers" would not have been preferred. The high shear mixers of SIXTA et al are preferred over other mixers that provide vigorous agitation, but are not "high shear" mixers. Besides the alternativeness of using high shear fluidizing mixers and "non fluidizing mixers", e.g. non-high shear mixers, is taught by the Australian Patent mentioned in the specification under the Description of Prior Art or AT 403 704 or CHENG teach other types of mixers are known to mix ozone into pulp. Applicant should send a copy of

the Australian Patent so that its full teachings can be considered by the Office.

The arguments that AT 2203/92 teaches multiple addition points and ozone introduction at a very low pressure are not convincing as the claims are open and do not exclude low pressures or more than one addition point.

The argument that the claims also require radially injecting the ozone is not convincing as such is shown in Figures 1a and 1b of SIXTA et al, where the ozone(8) is added radially into the mixers (4).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Alvo whose telephone number is 571-272-1185. The examiner can normally be reached on 5:45 AM - 2:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9199 (toll-free).



Steve Alvo  
Primary Examiner  
Art Unit 1731

msa